

an area that is larger or smaller than the area of the backsheet, as desired. The backsheet **138** and topsheet **140** are intended to face the garment and body of the wearer, respectively, while in use. The topsheet **140** and the backsheet **138** can, for example, be joined to each other in at least a portion of the diaper periphery **144** by attachment mechanisms (not shown) such as adhesive bonds, sonic bonds, thermal bonds, pinning, stitching, or a variety of other attachment techniques known in the art, as well as combinations thereof.

[0059] The topsheet **140** suitably presents a bodyfacing surface which is compliant, soft feeling, and non-irritating to the wearer's skin. Further, the topsheet **140** may be less hydrophilic than the absorbent core **142**, to present a relatively dry surface to the wearer, and is sufficiently porous to be liquid permeable, permitting liquid to penetrate readily through its thickness. A suitable topsheet **140** may be manufactured from a wide selection of web materials, such as porous foams, reticulated foams, apertured plastic films, natural fibers, synthetic fibers (for example, polyester or polypropylene fibers), or a combination of natural and synthetic fibers. The topsheet **140** is suitably employed to help isolate the wearer's skin from liquids held in the absorbent core **142**.

[0060] Various woven and nonwoven fabrics may be used for the topsheet **140**. For example, the topsheet **140** may be composed of a meltblown or spunbonded web of polyolefin fibers. The topsheet **140** may also be a bonded-carded web composed of natural and/or synthetic fibers. The topsheet **140** may be composed of a substantially hydrophobic material, and the hydrophobic material may, optionally, be treated with a surfactant, or otherwise processed, to impart a desired level of wettability and hydrophilicity. Specifically, the topsheet **140** may be a nonwoven, spunbond, polypropylene fabric.

[0061] The backsheet **138** may suitably be composed of a material which is either liquid permeable or liquid impermeable. It is generally desirable that the backsheet **138** be formed from a substantially liquid impermeable material. For example, a typical backsheet **138** can be manufactured from a thin plastic film or other flexible liquid impermeable material. Further, the backsheet **138** may be formed of a woven or nonwoven fibrous web layer which has been totally or partially constructed or treated to impart a desired level of liquid impermeability to selected regions that are adjacent or proximate the absorbent core **142**. Still further, the backsheet **138** may optionally be composed of micro-porous "breathable" material that permits vapors to escape from the absorbent core **142** while still preventing liquid exudates from passing through the backsheet.

[0062] The absorbent core **142** may comprise a matrix of hydrophilic fibers, such as a web of cellulosic fluff, mixed with particles of a high-absorbency material commonly known as superabsorbent material. In a particular version, the absorbent core **142** comprises a mixture of superabsorbent hydrogel-forming particles and wood pulp fluff. The wood pulp fluff may be exchanged with synthetic polymeric, meltblown fibers or with a combination of meltblown fibers and natural fibers. The superabsorbent particles may be substantially homogeneously mixed with the hydrophilic fibers or may be non-uniformly mixed.

[0063] The high-absorbency material can be selected from natural, synthetic and modified natural polymers and materials. The high-absorbency materials can be inorganic materials, such as silica gels, or organic compounds, such as crosslinked polymers. The term "crosslinked" refers to any

means for effectively rendering normally water-soluble materials substantially water insoluble, but swellable.

[0064] Examples of synthetic, polymeric, high-absorbency materials include the alkali metal and ammonium salts of poly(acrylic acid) and poly(methacrylic acid), poly(acrylamides), poly(vinyl ethers), maleic anhydride copolymers with vinyl ethers and alpha-olefins, poly(vinyl pyrrolidone), poly(vinyl morpholinone), poly(vinyl alcohol), and mixtures and copolymers thereof. Further polymers suitable for use in the absorbent core include natural and modified natural polymers, such as hydrolyzed acrylonitrile-grafted starch, acrylic acid grafted starch, methyl cellulose, carboxymethyl cellulose, hydroxypropyl cellulose, and the natural gums, such as alginates, xanthum gum, locust bean gum, and the like. Mixtures of natural and wholly or partially synthetic absorbent polymers can also be useful. Processes for preparing synthetic, absorbent gelling polymers are disclosed in U.S. Pat. No. 4,076,663, issued to Masuda et al., and U.S. Pat. No. 4,286,082, issued to Tsubakimoto et al.

[0065] As representatively illustrated in FIG. 6, the diaper **130** may include a pair of containment flaps **157** that are configured to provide a barrier to the lateral flow of body exudates. The containment flaps **157** may be located along the longitudinally extending side edges **146** of the diaper **130** adjacent the side edges of the absorbent core **142**. Each containment flap **157** typically defines an unattached edge that is configured to maintain an upright, perpendicular configuration in at least the crotch region **136** of the diaper **130** to form a seal against the wearer's body. The containment flaps **157** may extend longitudinally along the entire length of the absorbent core **142** or may only extend partially along the length of the absorbent core **142**. When the containment flaps **157** are shorter in length than the absorbent core **142**, the containment flaps **157** can be selectively positioned anywhere along the side edges **146** of the diaper **130** in the crotch region **136**. The containment flaps **157** may extend along the entire length of the absorbent core **142** to better contain the body exudates.

[0066] The diaper **130** may further include elastics at the end edges **148** and side edges **146** of the diaper **130** to further prevent leakage of body exudates and support the absorbent core **142**. The diaper **130** may also include a pair of waist elastics **152** that are connected to the end edges **148** of the diaper **130**. The leg elastics **150** and waist elastics **152** are generally adapted to fit about the legs and waist of a wearer in use to maintain a positive, contacting relationship with the wearer to effectively reduce or eliminate the leakage of body exudates from the diaper **130**.

[0067] The elastics may be adhered to the backsheet **138** in a stretched position, or they may be attached to the backsheet **138** while the backsheet **138** is pleated, such that elastic constrictive forces are imparted to the backsheet **138**. The leg elastics **150** may also include such materials as polyurethane, synthetic and natural rubber. The waist elastics **152** may be formed by elastic strands attached to the backsheet **138** or they may be formed by attaching separate pieces of stretchable materials to the waist regions of the article.

[0068] The disposable absorbent articles can but need not necessarily comprise fasteners **167** for securing the absorbent article about the waist of the wearer. The illustrated versions of the diaper **130** comprise such fasteners **167**. In at least one version, the fasteners **167** are situated in the rear region **134** of the diaper **130**, and are located inboard each longitudinal extending side edge **146**. The fasteners **167** may be config-